

US CRUDE OIL EXPORTS: IMPLICATIONS

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Oil Market Development
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US CRUDE EXPORT IMPLICATIONS

- ❖ Impact of US Crude Oil Exports
 - ❖ Global Crude Oil Trading
 - ❖ US & International refiners

- ❖ Implications for Brent & Dubai Benchmark

- ❖ What does this mean for oil prices

LONGEVITY OF SHALE OIL - EIA

POTENTIAL YEARS OF DRILLING IN COMMERCIAL PLAYS

About 50% of US output comes from N. Dakota & Texas

Bakken
40k to 100k locations
20 to 50 years

Mancos / Niobrara
75k to 95k locations
50 to 65 years

Utica
95k to 160k locations
>100 years

Marcellus
165k to 260k locations
>100 years

Mid-Continent Horizontal
175k to 215k locations
50 to 60 years

Barnett
20k to 35k locations
30 to 55 years

Permian Horizontal
165k to 260k locations
80 to >100 years

Haynesville
35k to 60k locations
75 to >100 years

Eagle Ford
105k to 130k locations
45 to 60 years

GOM
output
rising

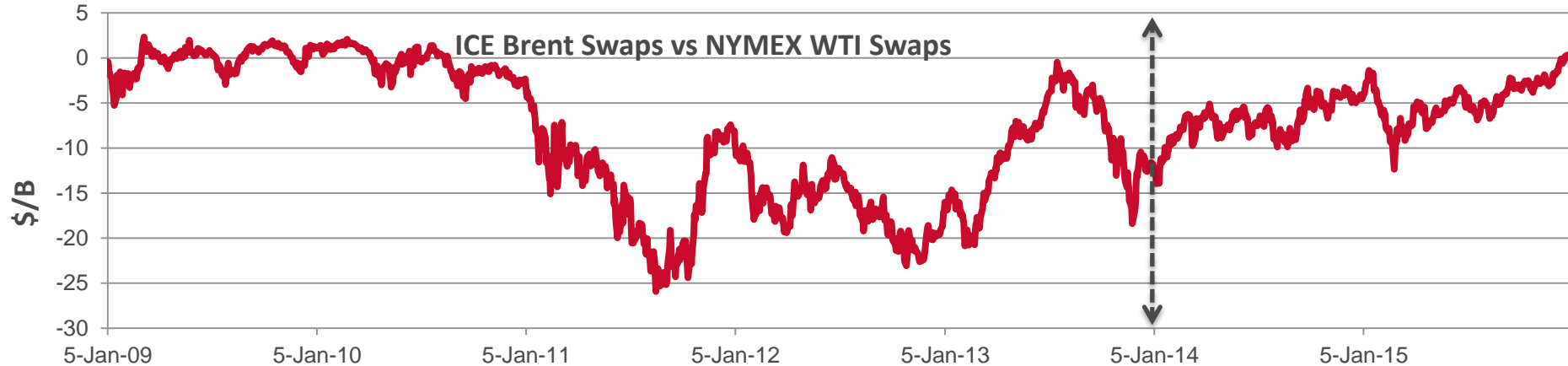
Total All Plays
Including "Emerging"
1,000k to 1,500k locations

EPD Pipelines
Gas
Crude Oil
Liquids (NGL & Products)

Existing North American Production
Oil
Gas

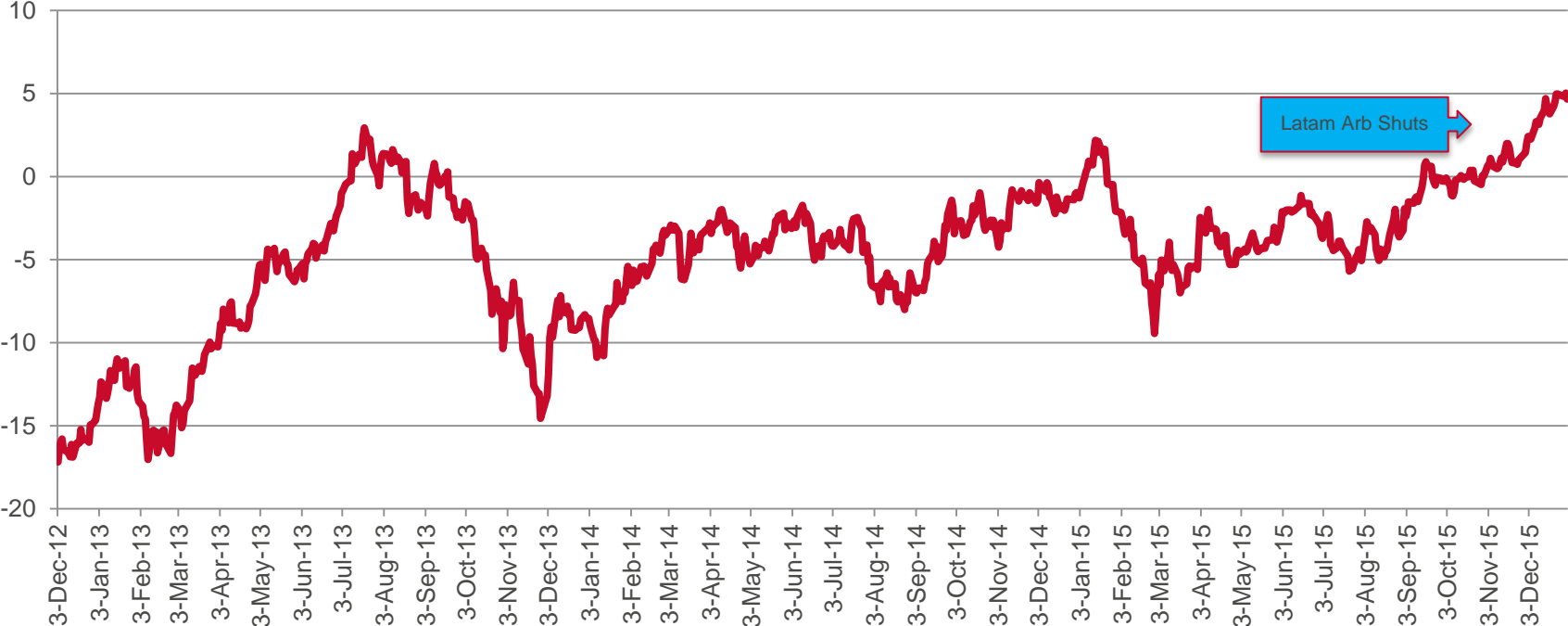
Sources: EPD Fundamentals; USGS Production 2008

BRENT-WTI SPREAD



- ❖ Brent-WTI spread has narrowed sharply since end 2011 when this spread widened to more than \$25/b
- ❖ Does this mean Brent would lose its status as the single most dominant crude oil benchmark
- ❖ Does this mean US refiners lose access to “disadvantaged crudes”?
- ❖ Will this new development affect Jones Act shipping?

WTI-DUBAI SPREAD



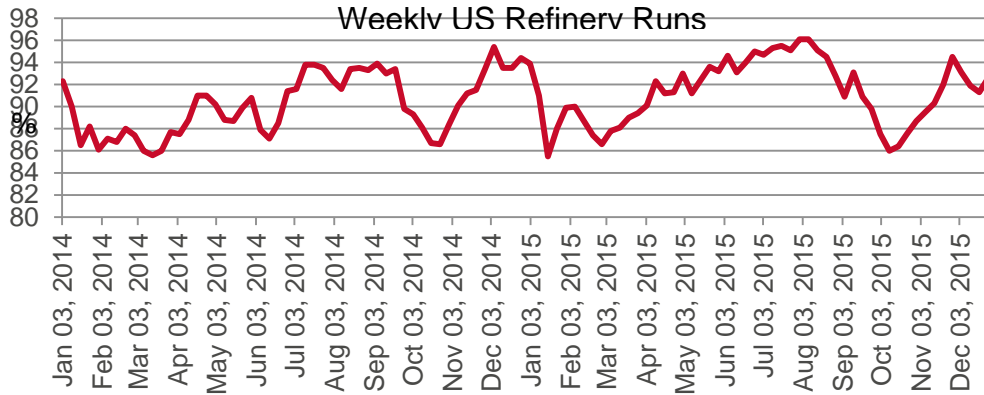
BRENT-DUBAI SWAPS (SINGAPORE CLOSE)



RESUMPTION OF US CRUDE OIL EXPORTS

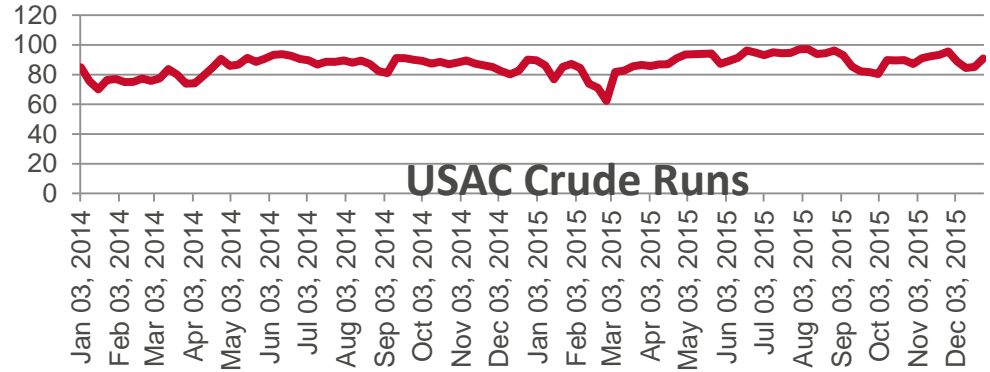
- ❖ Provides greater equilibrium to global oil market
- ❖ Arbitrages are not likely to have shorter life-spans
- ❖ Brent-WTI spread may not always be inverted – its swing based on fundamentals
- ❖ Latin American arbitrage opportunities dwindling fast as WTI-Dubai spread widens

IMPACT ON US REFINERS

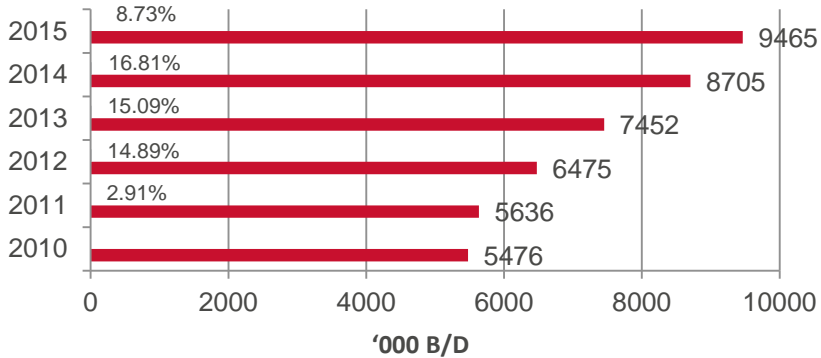


- ❖ Strong margins propelling refinery runs to higher levels
- ❖ Average crude API in around 30 degrees
- ❖ Very few run “cost advantaged crude” – are used to blend up high viscosity crudes

- ❖ USAC refiners also stand to benefit as WAF imports become cheaper
- ❖ In Oct – USAC refiners imported 60% of their needs – 16% from Canada

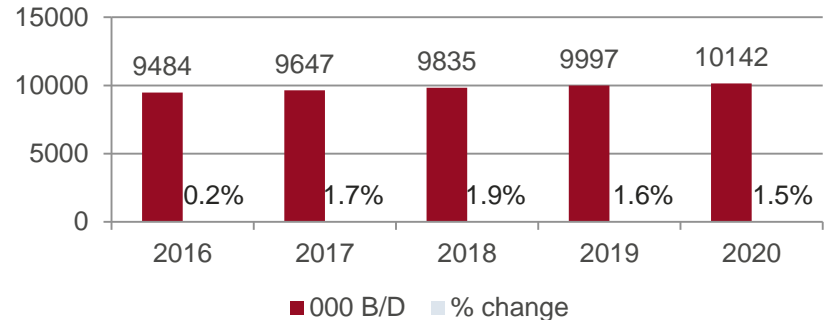


IMPACT . . .

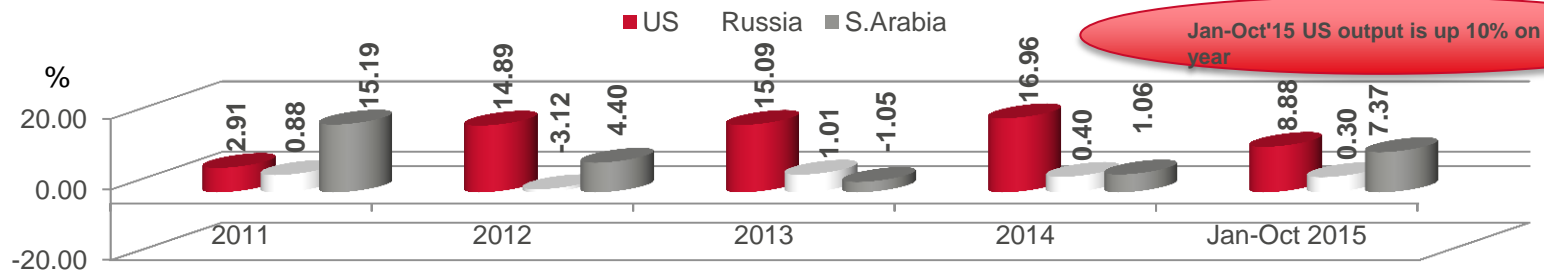
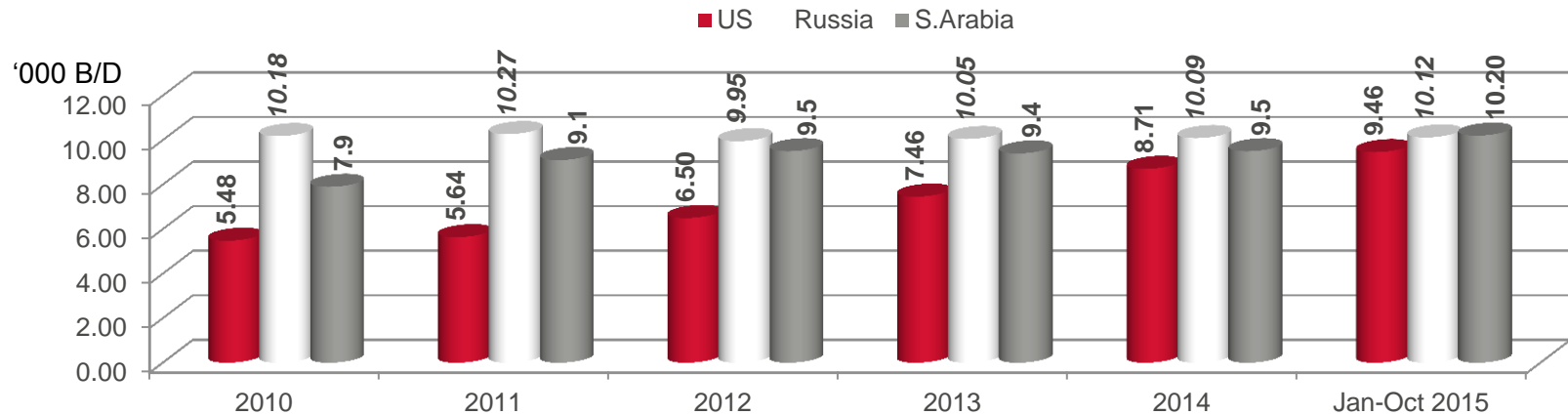


- ❖ US crude output to rise but at lower rates
- ❖ Bulk of the increase is still light sweet crudes
- ❖ Surplus light sweets to find home in Europe or Far East

- ❖ US crude production continues to rise
- ❖ 2015 rise lower than 2014 but still the largest increase among producers
- ❖ Production efficiency & lower cost has led to lower operating costs



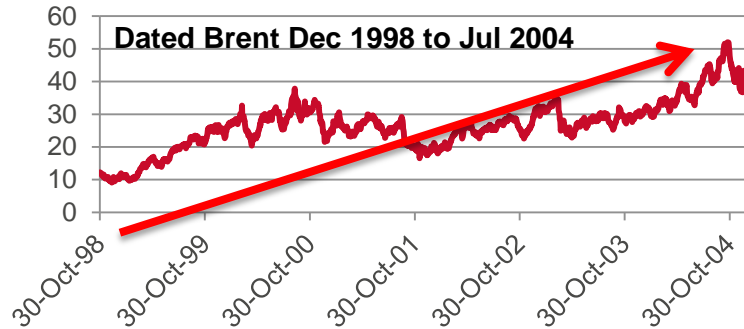
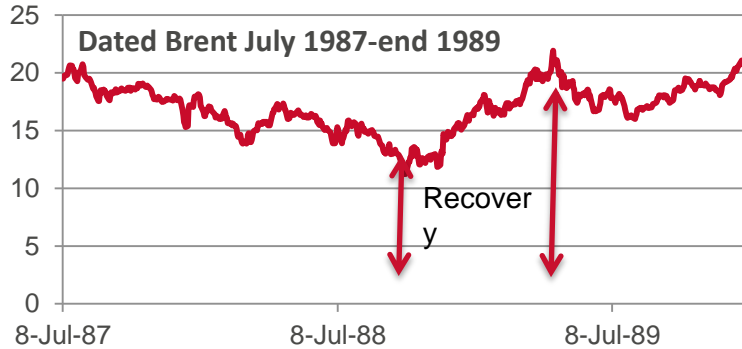
TOP THREE CRUDE OIL PRODUCERS



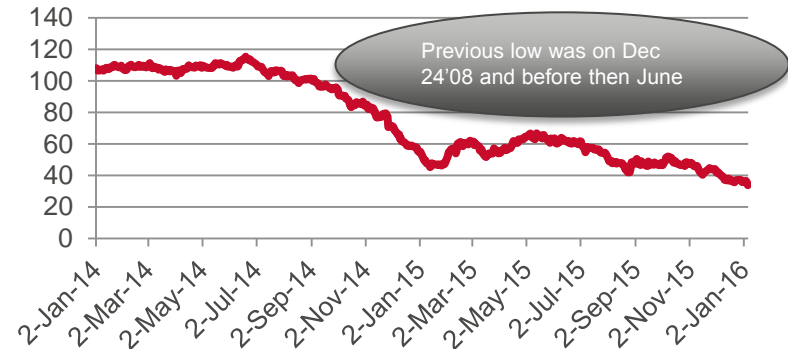
TAKE-AWAY

- ❖ Lifting of restriction on US crude exports provides equilibrium to global crude oil markets
- ❖ Makes arbitrages more effective
- ❖ US refiners not likely to attain higher than normal margins
- ❖ Lat.American arbitrage to Asia shut tight
- ❖ US refiners to enjoy “cheaper” Latin crudes

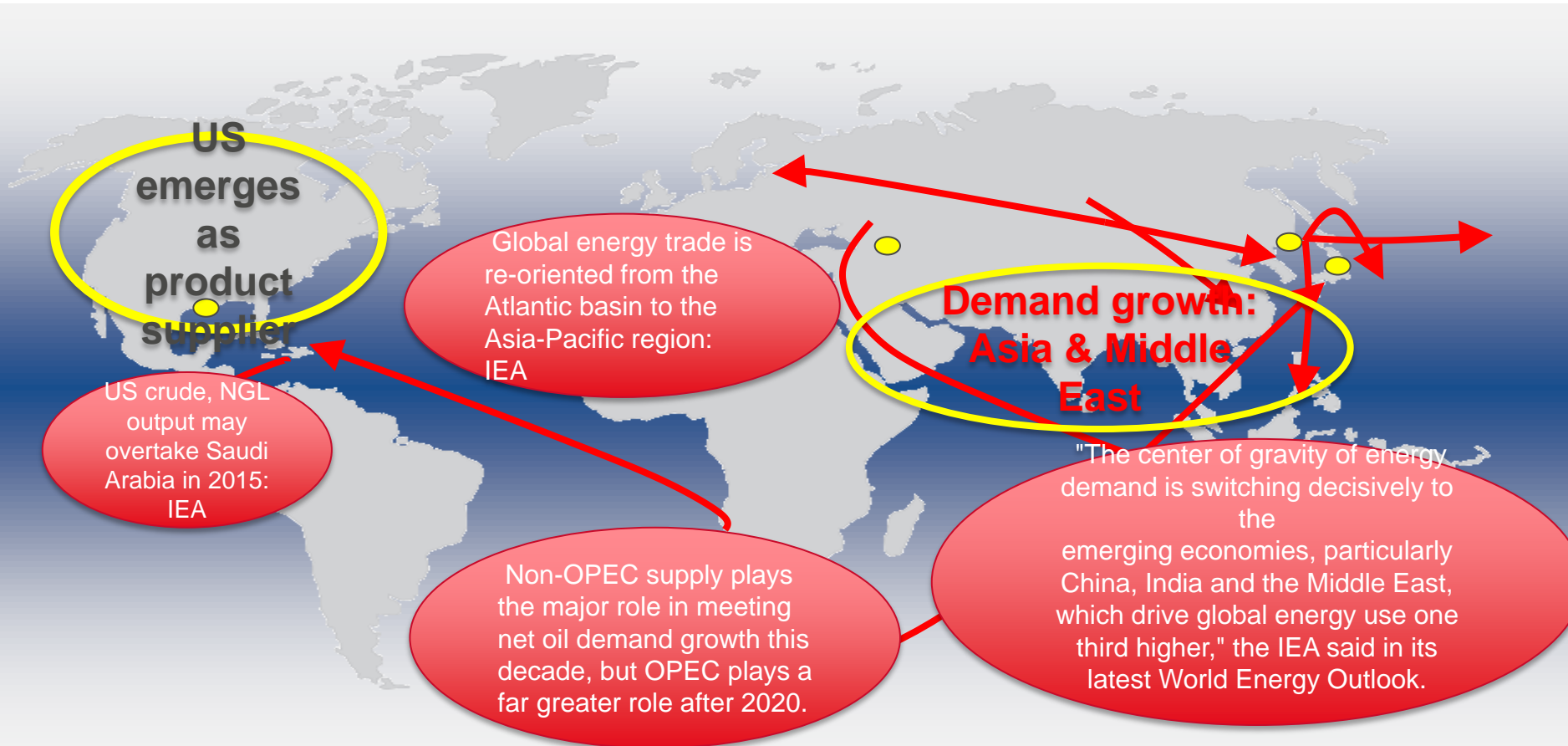
DATED BRENT . . . AN ANALYSIS



- The 1980s boom-bust cycle lasted 7 months
- In the 1990s and in the new millennium recovery took 4 plus years
- Jury is out on length of current downturn
- 18 months into downturn – looks like market has not bottomed out yet

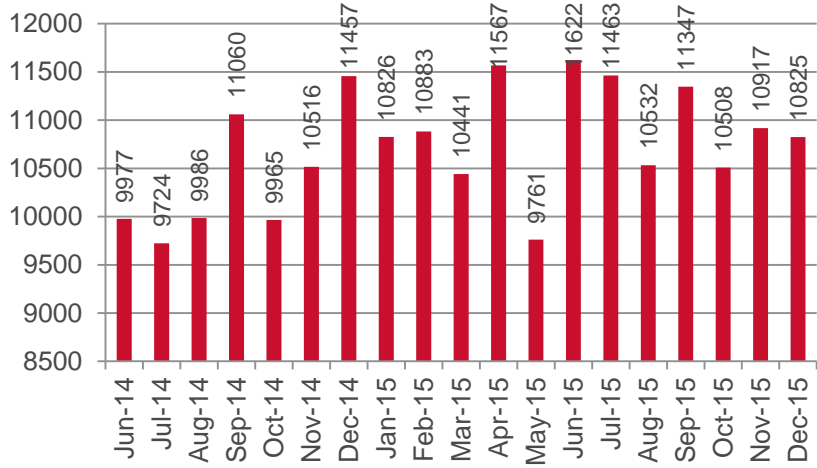


GLOBAL OIL FLOW: WEST TO EAST

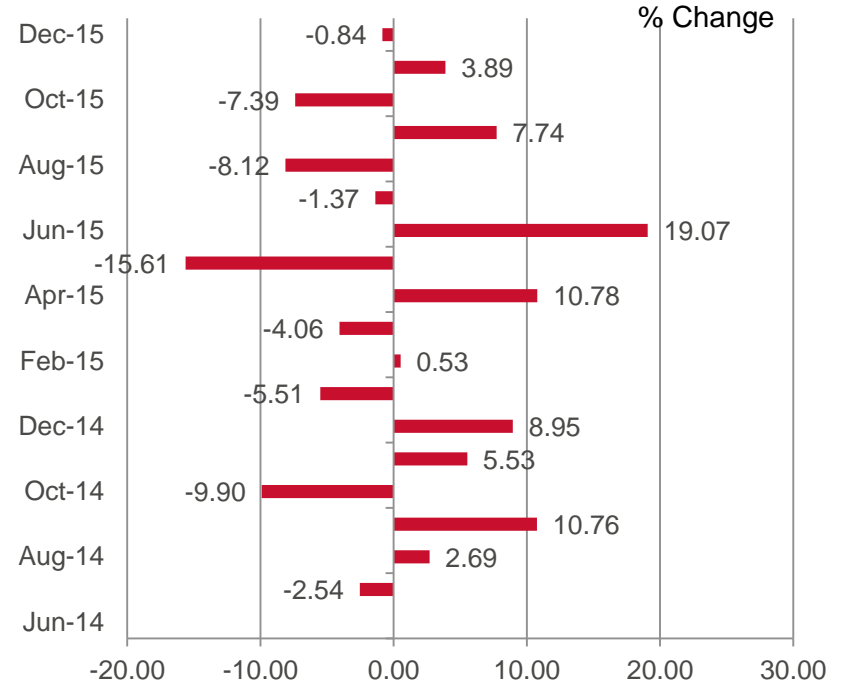


CHINA

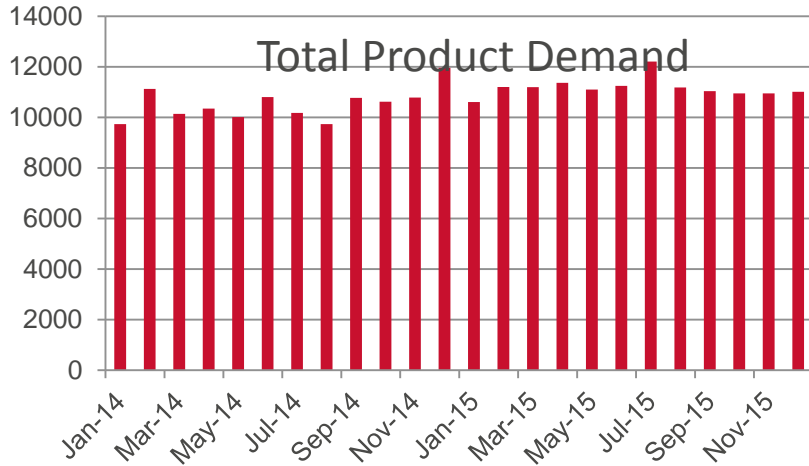
Total Crude Demand



2016 demand forecast at 11.3 mil b/d or 3.6% higher than 2015

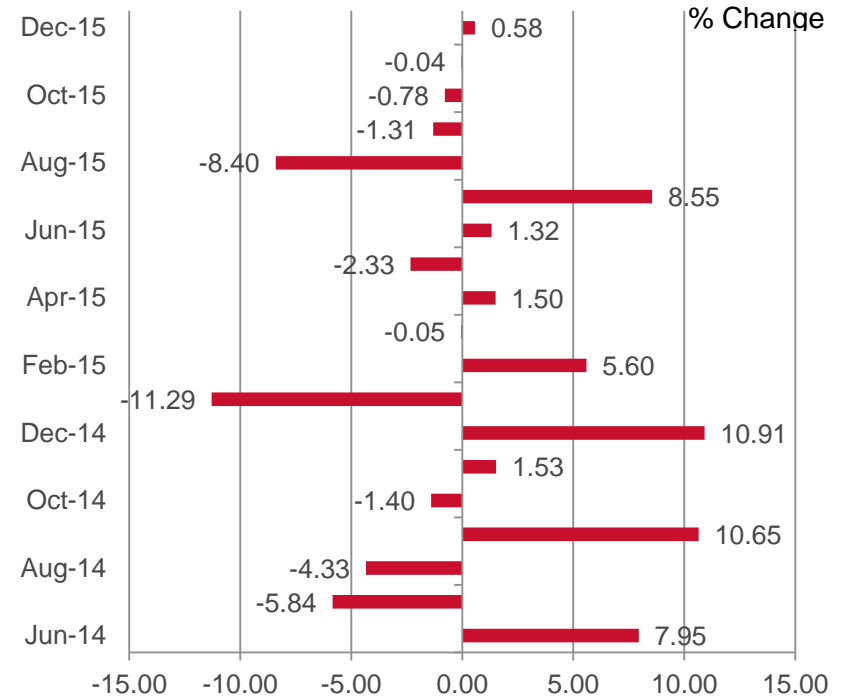


CHINA . . .



China's 2016 total product demand expected at 11.32 mil b/d or 1.27% higher than 2015

Sources: Platts Analytics



GLOBAL DEMAND . . .

- We got our math wrong – even at lower prices – crude oil production continues to rise & rise of global demand not rising fast enough
- Lagging product demand leading to oversupply of crude oil and build-up of product inventories
- Oil displacement on-going despite lower prices
- US crude exports will add to existing bearish pressure and extend bearish run
- China's economic plight adding to bearishness

Q & A

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